CENTRAL BUSINESS DISTRICT (CBD) TOLLING PROGRAM

Appendix 17, Environmental Justice

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Acronyms

ACS... American Community Survey
CBD ....Central Business District
CEQ ....Council on Environmental Quality
CP-29 ....Commissioner Policy 29
CTPP.. Census Transportation Planning Package
EA... Environmental Assessment
EJ...Environmental Justice
FHWA.. Federal Highway Administration
HHS .... U.S. Department of Health and Human Services
NJDEP ....New Jersey Department of Environmental Protection
NYSDEC...New York State Department of Environmental Conservation
NEPA .... National Environmental Policy Act
SNAP .... Supplemental Nutrition Assistance Program
USDOT ....U.S. Department of Transportation
USEPA .... U.S. Environmental Protection Agency

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17A.1   INTRODUCTION

Appendix 17 to the Environmental Assessment (EA) for the Central Business District (CBD) Tolling Program (the Project) presents supplemental information related to the environmental justice analysis conducted for the Project and summarized in **Chapter 17, "Environmental Justice,"** of the EA. Specifically, **Appendix 17A** provides more detailed information on the methodology used for the analysis. **Appendix 17B** provides detailed maps illustrating the locations of minority and low-income populations in the study areas and **Appendix 17C** includes tables with related census information for all census tracts in the study area.

This part of Appendix 17 (Appendix 17A) provides an overview of the methodology used for the environmental justice analysis and the data sources used **(Sections 17A.2 and 17A.3)**, followed by information on the methodology for identifying study areas for the analysis (**Section 17A.4**), the methodology for identifying minority populations (**Section 17A.5**), and the methodology for identifying low-income populations (**Section 17A.6**).

17A.2   OVERVIEW OF METHODOLOGY

The environmental justice analysis evaluates the potential for disproportionately high and adverse effects to environmental justice populations, consistent with FHWA's 2011 *Guidance on Environmental Justice and the National Environmental Policy Act (NEPA)*, U.S. Department of Transportation (USDOT) Order 5610.2C, and FHWA Order 6640.23A. The following Federal regulatory and guidance documents were used for the environmental justice analysis:

- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (February 1994)[1]

- USDOT Order 5610.2C, Department of Transportation Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (May 2021)[2]

- USDOT, Environmental Justice Strategy (November 2016)[3]

- FHWA Order 6640.23A, FHWA Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (June 2012)[4]

- FHWA, Guidance on Environmental Justice and NEPA (December 2011)[5]

- FHWA, Environmental Justice Reference Guide (April 2015)[6]

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[1]   https://www.archives.gov/files/federal-register/executive-orders/pdf/12898.pdf.
[2]   https://www.transportation.gov/sites/dot.gov/files/Final-for-OST-C-210312-003-signed.pdf.
[3]   https://www.transportation.gov/transportation-policy/environmental-justice/environmental-justice-strategy.
[4]   https://www.fhwa.dot.gov/legsregs/directives/orders/664023a.cfm.
[5]   https://www.environment.fhwa.dot.gov/env_topics/ej/guidance_ejustice-nepa.aspx.
[6]   https://www.fhwa.dot.gov/environment/environmental_justice/publications/reference_guide_2015/index.cfm.

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- Federal Interagency Working Group on Environmental Justice & NEPA Committee, Promising Practices for Environmental Justice Methodologies in NEPA Reviews (March 2016)[7]

The following methodology was used to conduct the environmental justice analysis:

1. Review Project effects to identify appropriate study areas for analysis of environmental justice.

2. Identify existing minority and low-income (environmental justice) populations in the study areas.

3. Determine whether the Project would result in beneficial and/or adverse effects on the identified environmental justice populations. This includes consideration of measures to avoid, minimize, and/or mitigate any adverse effects of the Project as well as potential offsetting benefits to the affected environmental justice populations. Input from environmental justice populations regarding potential issues of concern and mitigation measures is an important part of this step.

4. If adverse effects would remain after implementation of measures to avoid, minimize, or otherwise mitigate adverse effects, and taking into account offsetting benefits, identify whether those effects would be predominately borne by environmental justice populations or are appreciably more severe or greater in magnitude on environmental justice populations than the adverse effect suffered by the non-minority or non-low-income population (these are considered disproportionately high and adverse effects).

5. If no disproportionately high and adverse effects are identified, the environmental justice evaluation is complete. If disproportionately high and adverse effects on environmental justice populations are anticipated, evaluate whether there is a further practicable mitigation measure or practicable alternative that would avoid or reduce the disproportionately high and adverse effects. As noted in FHWA's 2011 guidance, if there is a disproportionately high and adverse effect on an environmental justice population after taking benefits and mitigation into account, "FHWA will approve the proposed action only if it determines that no such practicable measures exist." In addition, FHWA will not approve the proposed action unless it determines "that there is a substantial need for a project, based on the overall public interest; and alternatives that would have less adverse effects on protected populations have either (a) adverse social, economic, environmental, or human health impacts that are more severe; or (b) would involve increased costs of an extraordinary magnitude."

6. In addition to assessing the potential for disproportionately high and adverse effects on environmental justice populations, the Project Sponsors must provide meaningful opportunities for environmental justice populations to provide input on the Project.

17A.3   DATA SOURCES

The environmental justice analysis is based on the conclusions of the other chapters of this EA, in combination with supplemental data on environmental conditions and information from the U.S. Census

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[7]   The Project Sponsors reviewed this document in developing the analysis but used the guidance set forth in FHWA's 2011 Environmental Justice and NEPA. https://www.epa.gov/sites/production/files/2016-08/documents/nepa_promising_practices_document_2016.pdf.

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Bureau. These conclusions were informed, in part, by concerns raised by the public during early public outreach for the Project in fall 2021.

Areas where residents are minority and/or low-income were identified using data from the U.S. Census Bureau 2015-2019 American Community Survey (ACS) 5-Year Estimates to identify census tracts that are low-income and/or minority. The 2015–2019 ACS 5-Year Estimates are the most current full set of demographic information, including racial and ethnic characteristics and household income and poverty status, available from the U.S. Census Bureau at the census tract level. The 2020 Census information now available does not include a full set of information.

Socioeconomic characteristics of the traveling public, including minority and low-income populations, were based on data from the U.S. Census Bureau's Census Transportation Planning Package (CTPP). The analysis of travel patterns in the regional study area focuses on low-income and minority people who travel to and from the Manhattan CBD to evaluate the effects of changing travel patterns on those people. The CTPP provides special tabulations, based on the U.S. Census Bureau ACS 5-Year Estimates, that are useful for transportation planning, including commuter flow data at varying geographic scales by mode of commute and household income. The CTPP data include information on commuter patterns for a range of income levels. The most recent CTPP is based on the 2012-2016 ACS 5-Year Estimates and has not been updated to reflect more recent ACS data.

Conclusions about the effects of the CBD Tolling Alternative on low-income and/or minority populations and potential measures to avoid, minimize, or mitigate those effects were informed by the early environmental justice public outreach for the Project in fall 2021. That outreach included public webinars to engage with environmental justice populations throughout the 28-county region, coordination with an Environmental Justice Technical Advisory Group, and meetings with an Environmental Justice Stakeholder Working Group.

17A.4   METHODOLOGY FOR IDENTIFYING STUDY AREAS

17A.4.1   Types of Study Areas

The environmental justice analysis evaluates two types of potential effects of the CBD Tolling Program, neighborhood effects and regional effects:

- **Local (Neighborhood) Effects:** These are effects on local communities. The potential neighborhood effects would be primarily related to diverted trips and changes in traffic patterns, and the potential resulting effects in terms of traffic congestion, air emissions, and noise.

- **Regional Effects:** These are effects on regional mobility. The analysis considers how implementation of the CBD Tolling Alternative would affect the regional population in terms of increased costs (tolls), changes in trip time, and changes in transit conditions.

To evaluate both types of effects of the CBD Tolling Program on environmental justice populations, two different study areas were used:

- **Local (Neighborhood) Study Area:** Based on a review of Project effects identified in other portions of the EA, this study area encompasses locations where localized effects (such as changes in traffic volumes, air emissions, or noise) would occur with the Project.

- **Regional Study Area:** The regional study area encompasses the 28-county study area that is the main catchment area for trips to and from the Manhattan CBD and the area where changes in travel patterns and mobility would occur.

17A.4.2   Review of Effects of CBD Tolling Alternative to Identify Environmental Justice Study Areas

Chapter 16, "Summary of Effects," of the EA provides a summary of the CBD Tolling Alternative's effects both locally and regionally. FHWA and the Project Sponsors reviewed those conclusions as well as concerns raised during public outreach for the Project to adjust the environmental analyses conducted for this EA and determine what Project effects have the potential to affect environmental justice populations. This informed selection of study areas for the environmental justice analysis and the topics to be considered in the analysis.

The information presented in **Chapters 4 through 15** of this EA describe the effects of implementation of the CBD Tolling Alternative on the general population and identify potential adverse effects and measures to avoid, minimize, or mitigate those effects.

In addition, during environmental justice public outreach conducted for the Project in fall 2021, members of the public raised a number of concerns related to the Project's potential for effects on environmental justice populations, and FHWA and the Project Sponsors reviewed those concerns and included them in the analysis of environmental justice. **Table 16-1 in Chapter 16, "Summary of Effects,"** of the EA identifies the overall effects of the Project, compares the effects of the range of tolling scenarios analyzed in the EA, and identifies the potential for adverse effects on the overall population. FHWA and the Project Sponsors reviewed those conclusions as well as concerns raised during public outreach for the Project to determine what Project effects have the potential to affect environmental justice populations. This informed selection of study areas for the environmental justice analysis and the topics to be considered in the analysis.

17A.5   METHODOLOGY FOR IDENTIFYING MINORITY POPULATIONS

17A.5.1   Definitions

USDOT Order 5610.2C and FHWA Order 6640.23A include the following definitions related to minority populations:

- **Minority**: a person who is Black or African American (not Hispanic), American Indian and Alaskan Native, Asian American, Native Hawaiian or other Pacific Islander, and Hispanic or Latino.

- **Minority population:** Any readily identifiable groups of minority persons who live in geographic proximity, and, if circumstances warrant, geographically dispersed/transient persons, who will be similarly affected by a proposed FHWA program, policy, or activity.

This analysis also includes people who identified themselves as "some other race" or "two or more races" in the U.S. Census Bureau 2015–2019 ACS 5-Year Estimates.

17A.5.2   Minority Populations in Local (Neighborhood) Study Area

Census tracts were considered to be minority if either: (1) at least 50 percent of the census tract's population identifies as minority; or (2) the percentage of population identifying as minority in the census block group exceeds the share of minority population in the county where that census tract is located.

17A.5.3   Minority Populations in Regional Study Area

The environmental justice analysis considers the Project's potential for effects on minority-population commuters, travelers, or individuals in specific industries, businesses, or other groups that could be affected by increased cost associated with accessing the Manhattan CBD. To identify minority populations among these groups, the Project Sponsors used worker flow information from the CTPP.

Data is available in the CTPP regarding mode of travel by racial/ethnic group, and this data was used to identify overall travel patterns for minority people who work in the Manhattan CBD. However, the CTPP does not have data on minority commuters' travel modes that also identifies the locations from which they travel. For this information, the Project Sponsors estimated the general locations from which minority commuters drive to the Manhattan CBD using a several-step process. For each census tract, information is available regarding travel modes for people who travel to work in Manhattan. The analysis assumed that the travel modes for all workers traveling to Manhattan from the tract also apply to the minority population in those tracts who are traveling to Manhattan for work. Using that assumption, the Project Sponsors estimated the number of minority people who commute to work in the Manhattan CBD by travel mode from each tract.

This methodology used data sets available in the CTPP in the first four steps before estimating in the final, fifth step:

1. Identify all census tracts in the 28-county region that are origins for minority people who work in the Manhattan CBD: the result is 4,311 census tracts.

2. For all tracts identified in step 1, identify all tracts that are origins for workers who drive to work in the Manhattan CBD: the result is 3,427 census tracts.

3. For all tracts identified in step 2, identify tracts that do not have any minority workers who drive to work, regardless of destination. The result is 25 tracts, which are then subtracted from those identified in step 2, leaving 3,402 census tracts with minority people who work in the Manhattan CBD and potentially could drive.

4. For the tracts identified in Step 3, identify tracts where all workers who commute to the Manhattan CBD drive. There are 31 such tracts, with 470 minority workers. Therefore those 470 minority workers drive to the Manhattan CBD. Similarly, identify tracts where all workers are minority or all drivers are minority. The result of this step is 8,764 minority auto commuters in 345 tracts.

5. For the remaining 3,060 census tracts, identify the percent of all workers who commute by car to the Manhattan CBD and identify the number of minority people who commute to the Manhattan CBD from the tract. Apply the auto share percentage to the minority workers, assuming that the same percentage of minority workers drives as the percentage of overall workers.

Table 17A-1 provides a summary of the results using this approach.

Table 17A-1.   Estimating Minority Workers Who Drive to the Manhattan CBD

STEP	SOURCE	RESULT
1. Census tracts that are the origin for minority people who work in the Manhattan CBD	CTPP data on worker flows between census tracts, by race	Total minority workers in the Manhattan CBD Identification of all census tracts as origins
2. Census tracts that are origins for all workers who drive to the Manhattan CBD	CTPP data on worker flows between census tracts, by mode	Identification of specific census tracts from which people drive to work to the Manhattan CBD
3. Census tracts where no minority workers drive to work	CTPP data on worker origins and mode to work, by race (no destinations)	Identification of specific census tracts from which no minority workers can drive to work in the Manhattan CBD
4. Census tracts where all workers commute to the Manhattan CBD by driving, all workers are minority, or all drivers are minority.	CTPP data on worker flows, by race and/or by mode	Total minority commuters to the Manhattan CBD who drive from specific identified census tracts
5. For remaining census tracts, apply overall worker mode share to the Manhattan CBD to minority people who work in the Manhattan CBD.	CTPP data on worker flows by mode applied to CTPP data on worker flows by race	Estimated number of minority workers who drive to the Manhattan CBD from remaining tracts
RESULTING TOTAL:		**Estimated total of minority workers who drive to the Manhattan CBD and from which specific census tracts**

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17A.6   METHODOLOGY FOR IDENTIFYING LOW-INCOME POPULATIONS

17A.6.1   Definitions

USDOT Order 5610.2C and FHWA Order 6640.23A include the following definitions related to minority populations:

- **Low-Income:** A person whose household income is at or below the U.S. Department of Health and Human Services (HHS) poverty guidelines.

- **Low-Income Population:** Any readily identifiable groups of low-income persons who live in geographic proximity, and, if circumstances warrant, geographically dispersed/transient persons who will be similarly affected by a proposed FHWA program, policy, or activity.

The U.S. Census Bureau identifies households and household income. According to the U.S. Census Bureau, a household "includes all the persons who occupy a housing unit as their usual place of residence."[8]

The analysis for this Project used information on the number of households living in poverty from the U.S. Census Bureau 2015–2019 ACS 5-Year Estimates. The HHS poverty guidelines are based on annual statistical poverty thresholds from the U.S. Census Bureau.[9] The U.S. Census Bureau poverty thresholds are used to identify the population living in poverty for statistical purposes, while the HHS poverty guidelines are used to determine eligibility for Federal programs. Poverty thresholds vary by family size and composition, while poverty guidelines vary by household size and geographic location and both are updated annually.[10]

The environmental justice analysis used information from the U.S. Census Bureau's 2015-2019 ACS 5-Year Estimates to identify low-income census tracts in the study area. Information on the population with household incomes below the poverty thresholds as defined by the U.S. Census Bureau is available at a local (census tract) level, whereas information on the HHS poverty guideline is not. However, as the HHS poverty guidelines are based on the Census Bureau threshold, the latter is commonly used as a proxy for the former.

Based on a review of potential methodologies and consideration of a number of critical factors, the Project Sponsors in consultation with FHWA identified income thresholds to be used in identifying low-income populations that are appropriate for identifying low-income populations in the Project study area and reflect local conditions and cost of living in the study area.

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[8]   https://www.census.gov/quickfacts/fact/note/US/HSD410219.
[9]   https://aspe.hhs.gov/frequently-asked-questions-related-poverty-guidelines-and-poverty.
[10]   This approach is recommended in the Federal Interagency Working Group on Environmental Justice & NEPA Committee's *Promising Practices for Environmental Justice Methodologies in NEPA Reviews* (2016).

17A.6.2   Low-Income Populations in Local (Neighborhood) Study Area

17A.6.2.1   Approach

The Project Sponsors identified census tracts with low-income populations using a low-income threshold of twice the Federal poverty threshold. (More specifically, the Project Sponsors used data from the U.S. Census on the number of individuals in each census tract with household incomes up to 1.99 times the Federal poverty threshold. For simplicity, this analysis refers to that information as twice the Federal poverty threshold.) This income level was used to identify low-income census tracts as follows:

1. The percentage of individuals with household incomes up to twice the Federal poverty threshold in each census tract was identified and compared to that percentage for a larger reference area. Census tracts with a higher percentage of population with household incomes at or below twice the Federal poverty threshold were considered low-income.

2. The reference area for comparison was the regional 28-county study area.

The rationale for those two steps is described below.

17A.6.2.2   Rationale for Low-Income Threshold for Census Tracts

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (February 11, 1994), directs Federal agencies to identify and address, as appropriate, disproportionately high and adverse effects of Federal actions on minority and low-income populations. That document does not define "low-income." While the USDOT Order 5610.2C and FHWA Order 6640.23A define low-income populations as people living below the HHS poverty guideline, the 2011 FHWA guidance document notes that Project Sponsors may adopt a more inclusive threshold for low-income as long as it is inclusive of all persons at or below the Federal poverty guidelines.[11] The Project Sponsors used a threshold for identifying populations living in poverty that is specific to the Project context, recognizing that the level of income that constitutes poverty is higher in the New York metropolitan region than it is nationwide, given the higher cost of many items, and particularly housing, in the New York City area.

In identifying the low-income threshold of twice the Federal poverty threshold, the Project Sponsors considered the following factors, to ensure that the approach reflects the local context for the Project and employs an appropriate methodological approach:

*   The threshold used for identifying low-income census tracts should relate to the Federal poverty threshold, rather than to a specific household income level. The Federal poverty threshold incorporates consideration of household size and composition, which is important in identifying a household's economic strength.

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[11]   The U.S. Census Bureau has established poverty thresholds to identify the population living in poverty, which are updated each year. These can be used to identify the population living in poverty in a specific location, such as a census tract. The HHS poverty guidelines are a simplified version of those Federal poverty thresholds that are used for administrative purposes—for instance, determining financial eligibility for certain Federal programs. https://aspe.hhs.gov/frequently-asked-questions-related-poverty-guidelines-and-poverty.

- The threshold used for identifying low-income census tracts should be consistent with relevant guidance developed by Federal, state, and local agencies.

- The threshold used for identifying low-income census tracts should be based on data that is readily available at a census tract level from the U.S. Census, without adjustments and estimations that might make the results difficult to explain or less clearly reliable.

These considerations are described below.

Relationship to Federal Poverty Threshold

An important consideration in selecting the threshold for identifying low-income census tracts is that it should relate to the Federal poverty threshold, rather than to a specific household income level. The Federal poverty threshold incorporates consideration of household size and composition, which is important in identifying a household's economic strength.

The Federal poverty threshold varies by family size, number of children, and number of people over age 65. As shown **Table 17A-2**, for 2019, the poverty threshold ranged from a household income of $13,011 for a one-person household to $52,875 for a family of nine people or more.[12] The values shown in this table from the U.S. Census Bureau are weighted averages for the actual more detailed thresholds, which account for the age of the head of household and number of children in the family.

Table 17A-2.   2019 Federal Poverty Threshold by Family Size

SIZE OF FAMILY UNIT	WEIGHTED AVERAGE THRESHOLD
One person	$13,011
Two people	$16,521
Three people	$20,335
Four people	$26,172
Five people	$31,021
Six people	$35,129
Seven people	$40,016
Eight people	$44,461
Nine people or more	$52,875

Source: U.S. Census Bureau.
Note: The poverty thresholds for each family size include specific amounts that vary depending on the age of the primary householder (under age 65 or over age 65) and the number of related children under 18 years old in the family.

Based on the information in **Table 17A-2**, identifying an income threshold that is not tied to household size and composition would not adequately represent the economic strength of households in a specific census tract.

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[12]   Please note that the Project Sponsors used 2019 census data in the EA, since 2019 is the most recent year for which full sets of census data are available.

Guidance from Federal, State, and Local Agencies Related to Populations in Poverty

The Project Sponsors reviewed a range of different Federal, state, and local programs, guidance, and policies related to identifying low-income populations and populations in poverty. Methodologies and approaches vary, depending on the purpose of the specific program or policy. A number of key programs and guidance documents support the use of twice the Federal poverty threshold in identifying low-income populations, including those described below.

U.S. Environmental Protection Agency EJSCREEN

The U.S. Environmental Protection Agency (USEPA) has developed an environmental justice mapping and screening tool, EJSCREEN, that uses demographic information and environmental indicators to identify geographic areas of concern in environmental justice analyses for projects subject to approval by EPA (https://www.epa.gov/ejscreen). To identify low-income populations, the EPA screening tool identifies the percent of a census block group's population with household income less than or equal to twice the Federal poverty threshold.

The technical documentation for EPA's environmental justice screening tool explains the rationale for using twice the Federal poverty level (see Appendix B of the EJSCREEN Technical Documentation). [13] The explanation provided includes the following:

- "The effects of income on baseline health and probably on other aspects of susceptibility are not limited to those below the poverty thresholds—those from 1x to 2x poverty also have worse health overall than those with higher incomes . . . , and asthma rates, for example, begin to increase as income falls below twice the poverty threshold."

- "Many studies in various fields use 2x times poverty, and many others use 1x poverty; the same is true for prior EPA screening tools. There is precedent for both. However, a rationale often mentioned is that today's poverty thresholds are too low to adequately capture the populations adversely affected by low income levels, especially in high-cost areas. Some analysts have concluded that the amount of income actually required for basic living costs without government support is far higher than the current Federal poverty thresholds."

Guidance Related to Justice40 Initiative

On January 27, 2021, President Biden signed Executive Order 14008, *Tackling the Climate Crisis at Home and Abroad*, which established an environmental justice initiative known as "Justice40." The Executive Order established a goal that for the Federal government's investments in certain areas, 40 percent of the overall benefits of these investments should benefit disadvantaged communities.

As part of the government-wide Justice40 initiative, the Council on Environmental Quality (CEQ), in partnership with the U.S. Digital Service, developed a geospatial Climate and Economic Justice Screening Tool. That screening tool includes interactive maps to assist agencies in defining and identifying disadvantaged communities at the census tract level. A preliminary version of the screening tool is currently

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[13]   https://www.epa.gov/sites/default/files/2021-04/documents/ejscreen_technical_document.pdf.

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available for public comment (https://screeningtool.geoplatform.gov/en/about). One of the factors the Climate and Economic Justice Screening Tool uses for identifying disadvantaged communities is related to low-income status, where the low-income population is defined as the percent of a census tract's population where household income is at or below twice the Federal poverty level.[14]

New York State Environmental Justice Policy

In 2003, the New York State Department of Environmental Conservation (NYSDEC) issued a policy statement related to incorporating environmental justice concerns in the agency's permitting processes. That policy statement, *Commissioner Policy 29 (CP-29), Environmental Justice and Permitting,* is still in effect today. CP-29 identifies a low-income population to be a population with annual income less than the Federal poverty threshold.

New Jersey Environmental Justice Screen

In 2020, New Jersey Governor Phil Murphy signed a statewide Environmental Justice Law, which requires the New Jersey Department of Environmental Protection (NJDEP) to evaluate the environmental and public health impacts of certain facilities on overburdened communities when reviewing certain permit applications. That law defines an overburdened community based on the percentage of low-income households, the percentage of minority residents, and/or the percentage of households with limited English proficiency. Low-income households are defined as those at or below twice the Federal poverty threshold as determined by the U.S. Census Bureau.[15]

New York City Local Poverty Threshold

The City of New York produces and publishes each year its own poverty measure, which considers the higher cost of living in New York City relative to many other areas of the U.S. This information is available at https://www1.nyc.gov/site/opportunity/poverty-in-nyc/poverty-measure.page.

The New York City poverty measure is based on national data on family spending for necessities (food, clothing, shelter, and utilities), but is adjusted for family size and the higher cost of housing in New York City. It also reflects many factors that are in place to address local poverty, including nutrition assistance (the Federal Supplemental Nutrition Assistance Program [SNAP], free school meals, and the Special Supplemental Nutrition Program for Women, Infants, and Children), housing assistance (including public, subsidized, and rent-regulated apartments), and home heating assistance. It also reflects nondiscretionary spending, such as child-care and transit costs and out-of-pocket medical expenses.

Like the Federal threshold, the New York City poverty threshold varies depending on the size of the family and the number of children in the family. The annual report published in 2021, which presents poverty data for 2019 (the most recent report for which detailed appendices are available) presents a comparison of the Federal poverty threshold and New York City poverty threshold. That information is presented in **Table 17A-3**.

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[14] https://screeningtool.geoplatform.gov/en/methodology.
[15] https://www.nj.gov/dep/ej/policy.html.

Table 17A-3.   Comparison of New York City and Federal Poverty Thresholds for 2019

FAMILY SIZE	2019 NEW YORK CITY POVERTY THRESHOLD	2019 FEDERAL POVERTY THRESHOLD	RATIO OF NEW YORK CITY TO FEDERAL THRESHOLD
One Adult, No Children	$16,806	$13,300	1.26
Two Adults, No Children	$23,697	$17,120	1.38
One Adult, One Child	$25,360	$17,622	1.44
One Adult, Two Children	$30,108	$20,598	1.46
One Adult, Three Children	$34,552	$26,107	1.33
Two Adults, One Child	$31,917	$20,578	1.55
Two Adults, Two Children	$36,262	$25,926	1.40
Two Adults, Three Children	$40,394	$30,510	1.32

Sources: U.S. Census Bureau and Office of the Mayor, New York City Government Poverty Measures 2019, Appendix B, Defining a Poverty Threshold for New York City, Table B.3. https://www1.nyc.gov/site/opportunity/poverty-in-nyc/poverty-measure.page.

As defined in the report, the poverty threshold represents "the minimal socially acceptable measure of resources necessary for a family of a particular size." New York City also defines a "near-poverty" threshold for families that have incomes within 150 percent of the New York City poverty threshold. **Table 17A-4** presents the near-poverty thresholds as defined by New York City and their resulting ratio to the Federal poverty threshold for 2019. Based on the information from **Table 17A-2**, this near-poverty threshold aligns with the use of twice the Federal poverty threshold for identifying low-income households.

Table 17A-4.   Comparison of New York City "Near Poverty" Threshold and Federal Poverty Threshold for 2019

FAMILY SIZE	2019 NEW YORK CITY NEAR POVERTY THRESHOLD	2019 FEDERAL POVERTY THRESHOLD	RATIO OF NEW YORK CITY TO FEDERAL THRESHOLD
One Adult, No Children	$25,209	$13,300	1.90
Two Adults, No Children	$35,545	$17,120	2.08
One Adult, One Child	$38,041	$17,622	2.16
One Adult, Two Children	$45,161	$20,598	2.19
One Adult, Three Children	$51,829	$26,107	1.99
Two Adults, One Child	$47,876	$20,578	2.33
Two Adults, Two Children	$54,393	$25,926	2.10
Two Adults, Three Children	$60,591	$30,510	1.99

Source: U.S. Census Bureau and Office of the Mayor, New York City Government Poverty Measures 2018, Appendix B, Defining a Poverty Threshold for New York City, Table B.7. https://www1.nyc.gov/site/opportunity/poverty-in-nyc/poverty-measure.page.

New York City Environmental Justice Initiative

In addition to the local poverty measure that the City of New York developed and updates annually, in 2017 then-Mayor Bill de Blasio signed into law Local Law 60, which required that a citywide study of environmental justice be conducted and summarized in a report, the *Environmental Justice for All Report*. The law also required the creation of an online environmental justice portal with a mapping tool for environmental justice data.

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Central Business District (CBD) Tolling Program Environmental Assessment
Appendix 17A, Environmental Justice: Methodology

In December 2021, the City published the proposed scope of work for the *Environmental Justice for All Report* for public review and comment (https://www1.nyc.gov/assets/sustainability/downloads/pdf/EJ-Report-Scope.pdf). As outlined in that scope, environmental justice areas will be identified in that report based on the presence of low-income or minority populations. Low-income populations are defined as populations with annual incomes less than the poverty threshold established by the U.S. Census Bureau.

New York City Fair Fares Program

Also relevant for the analysis as a policy related to ability to pay for costs of travel, is New York City's "Fair Fares" program, a program developed by the City of New York to provide low-income New York City residents with half-price transit fares. This program provides a 50 percent discount for subway and local bus fares as well as the cost of Access-A-Ride paratransit trips. The Fair Fares program is available to eligible New York City residents with incomes at or below the Federal poverty level.

Summary

A number of different programs for identifying economically disadvantaged populations for purposes of evaluating and addressing environmental justice and transportation equity support identifying low-income populations as people in households with incomes up to twice the Federal poverty threshold. At the Federal level, these include EPA's EJSCREEN and the preliminary guidance and screening tools developed for the Justice40 initiative. At the state level, they include New York State environmental justice thresholds for permitting and New Jersey's Environmental Justice Law. In New York City, a locally developed poverty measure reflecting the specific cost of living factors in the city is also consistent with a threshold at twice the Federal poverty level.

Data Readily Available from the U.S. Census

Using twice the Federal poverty threshold as an indicator of low-income population is consistent with a goal of using a threshold that is based on data that is readily available at a census tract level from the U.S. Census, without adjustments and estimations that might make the results difficult to explain or less clearly reliable. The U.S. Census includes information on the number of individuals with household incomes at or below the Federal poverty threshold at the census tract level. It also includes information about the number of individuals with household incomes of up to twice (1.99 times) the Federal poverty threshold, as well as other multiples of the poverty threshold. This information reflects the family size and composition of each individual as well as their household income in identifying their income status relative to the poverty threshold.

17A.6.2.3   Rationale for Reference Area for Census Tracts

The methodology for identifying low-income census tracts involves comparing the percent of the population in each tract at or below the selected indicator (in this case, a threshold of twice the Federal poverty threshold) to the percent in a reference area. This ensures that the results reflect the local context, by determining whether the census tract has more people living below the indicator than the general population of the area. Reference areas are typically larger than the area where a project is proposed, so that they can reasonably represent the general population. The Federal Interagency Working Group on

Environmental Justice & NEPA Committee's publication, *Promising Practices for Methodologies in NEPA Reviews* (March 2016), lists as examples of reference areas the county or state where a project is proposed.

Consistent with this approach, the EPA's EJSCREEN provides information on the percent of population in a given census block group in comparison to the percent in the state where that tract is located. Information is presented as percentiles, showing how much the census tract differs from the state level—the percentiles illustrate what percent of the state population has a higher value than the census tract.

For the CBD Tolling Program, given the Project's potential wide-ranging effects across a 28-county study area, a large reference area is appropriate. This avoids the potential of missing low-income populations, which might occur if a smaller area with a higher proportion of low-income people were selected. For this reason, the Project Sponsors used the 28-county region as the reference area. The proportion of low-income populations in the 28-county region was calculated as (1) the sum of individuals living in households with incomes up to twice (1.99 times) the Federal poverty rate in each of the 28 counties in the region divided by (2) the sum of individuals for whom poverty status has been determined in those same counties.

17A.6.3   Low-Income Populations in Regional Study Area

Similar to the approach for minority-population commuters, the environmental justice analysis also considers the Project's potential for effects on low-income-population commuters, travelers, or individuals in specific industries, businesses, or other groups that could be affected by increased costs associated with accessing the Manhattan CBD.

17A.6.3.1   Approach

To identify low-income commuters to the Manhattan CBD, data from the CTPP related to worker flows by income and mode was used. Information available from the CTPP that aligns as closely as possible with the threshold for census tracts was used to identify low-income drivers. A household income threshold of $50,000 was used to identify low-income drivers. The rationale for this threshold is described below.

17A.6.3.2   Rationale for Methodology to Identify Low-Income Commuters

In identifying the low-income threshold for travelers in the regional study area, the Project Sponsors considered the following factors, to ensure that the approach reflects the local context for the Project and employs an appropriate methodological approach:

- The threshold used for identifying low-income commuters (and other travelers) should align, to the extent practicable, with the threshold used for identifying low-income census tracts.

- The threshold used for identifying low-income commuters (and other travelers) should be based on data that is readily available from the U.S. Census, without adjustments and estimations that might make the results difficult to explain or less clearly reliable.

Information on workers who travel to and from the Manhattan CBD for work is available from the CTPP, a product prepared by the U.S. Census Bureau. The CTPP provides information on flows of workers between

their home census tracts and work destinations. That information is available by travel mode for a range of household incomes. For travel mode by household income, data are available for the following household income categories:

- Up to $34,999

- $35,000-$49,999

- $50,000-$74,999

- $75,000 or more

However, the CTPP does not include information on the household size and composition for these commuters, so it is not possible to determine whether they have household incomes that are at or below twice the Federal poverty level, which is the low-income threshold for identifying low-income census tracts. Instead, a single household income threshold must be defined to identify low-income commuters. For this Project, the income threshold to define low-income travelers was based on the income threshold used to define low-income census tracts, twice the Federal poverty level, assuming the average household size in the Project study area.

As noted earlier and presented in **Table 17A-2** above, the Federal poverty threshold varies by family size, number of children, and number of people over age 65. The average household size for the Project study area is 2.8 people per household, based on the following average household sizes in 2019:

- 28-county regional study area: 2.78 persons per household

- 10-county study area consisting of New York City and the immediately surrounding areas: 2.82 persons per household

- New York City: 2.81 persons per household

Consequently, the Federal poverty threshold for the average-size family in the Project study area was approximately $20,335 in 2019 (see **Table 17A-2**), and twice the Federal poverty threshold was approximately $41,000.

Using the household income ranges available from the CTPP, the environmental justice analysis considered all workers with household incomes up to $50,000 as low-income. This is approximately equivalent to, although higher than, the low-income threshold of twice the Federal poverty threshold for a three-person family, which is the average household size for the Project study area. Using this threshold allowed the Project Sponsors to use data directly available from the CTPP, without the need for adjustments or estimations.

# 17B, Environmental Justice Profile of Study Areas: Maps

- Local Study Area Neighborhoods

  - Overview of Local Study Area
  - Central Business District, New York County (Manhattan), NY
  - Outside Central Business District, New York County (Manhattan), NY
  - Bronx County, NY
  - Kings County (Brooklyn), NY
  - Queens County, NY
  - Richmond County, NY
  - Nassau County, NY
  - Bergen County, NJ
  - Essex County and Union County, NJ
  - Hudson County, NJ

- Regional Study Area Neighborhoods Outside Local Study Area

  - Overview of Regional Study Area
  - Connecticut Counties: Fairfield and New Haven Counties
  - New Jersey Northern Counties: Hunterdon, Morris, Passaic, Somerset, Sussex, and Warren Counties
  - New Jersey Southern Counties: Mercer, Middlesex, Monmouth, and Ocean Counties
  - New York Counties North of New York City: Dutchess, Putnam, Orange, Rockland, and Westchester Counties
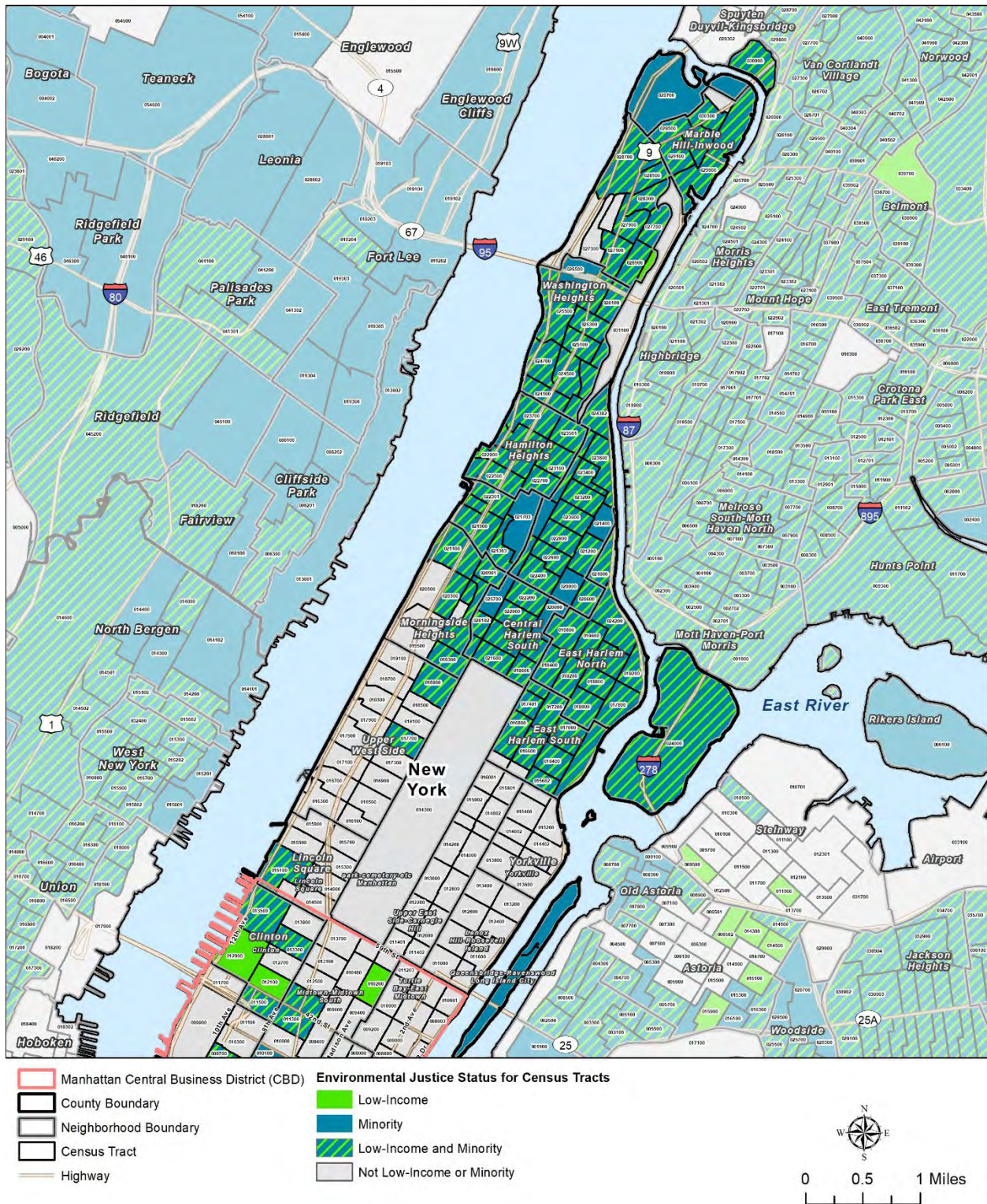 - Long Island County: Suffolk County, NY

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  – New Jersey Southern Counties: Mercer, Middlesex, Monmouth, and Ocean Counties
  – New York Counties North of New York City: Dutchess, Putnam, Orange, Rockland, and Westchester Counties
  – Long Island County: Suffolk County, NY

LOCAL STUDY AREA NEIGHBORHOODS

Figure 17B-1.   Overview of Local Study Area
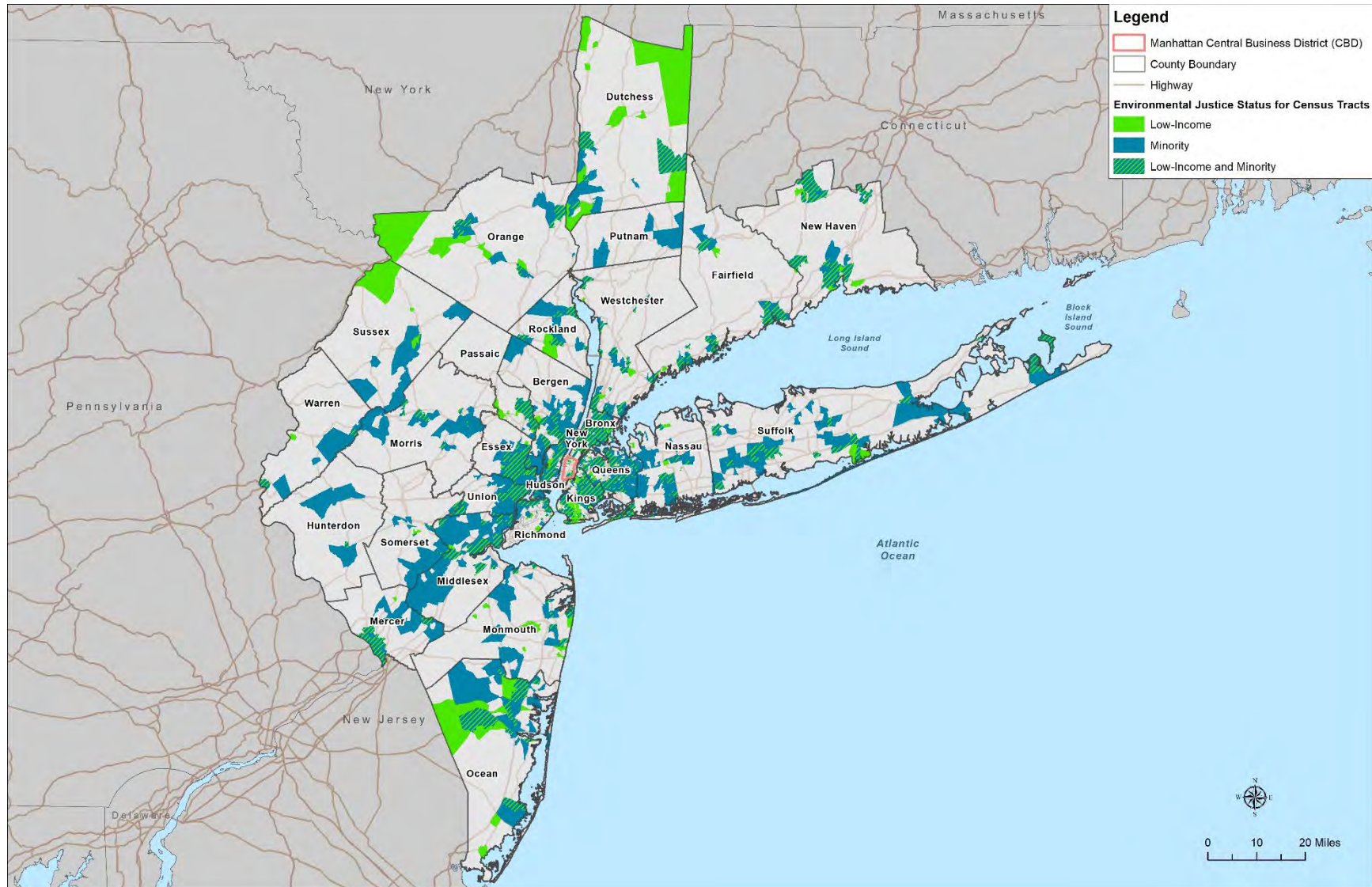
Source: U.S. Census Bureau American Community Survey 2015–2019 5-Year Estimates.

Figure 17B-2.   Central Business District, New York County (Manhattan), NY

Source: U.S. Census Bureau American Community Survey 2015–2019 5-Year Estimates.
Note: Refer to Appendix 17C, Table 17C-1 for specific information pertaining to this figure.
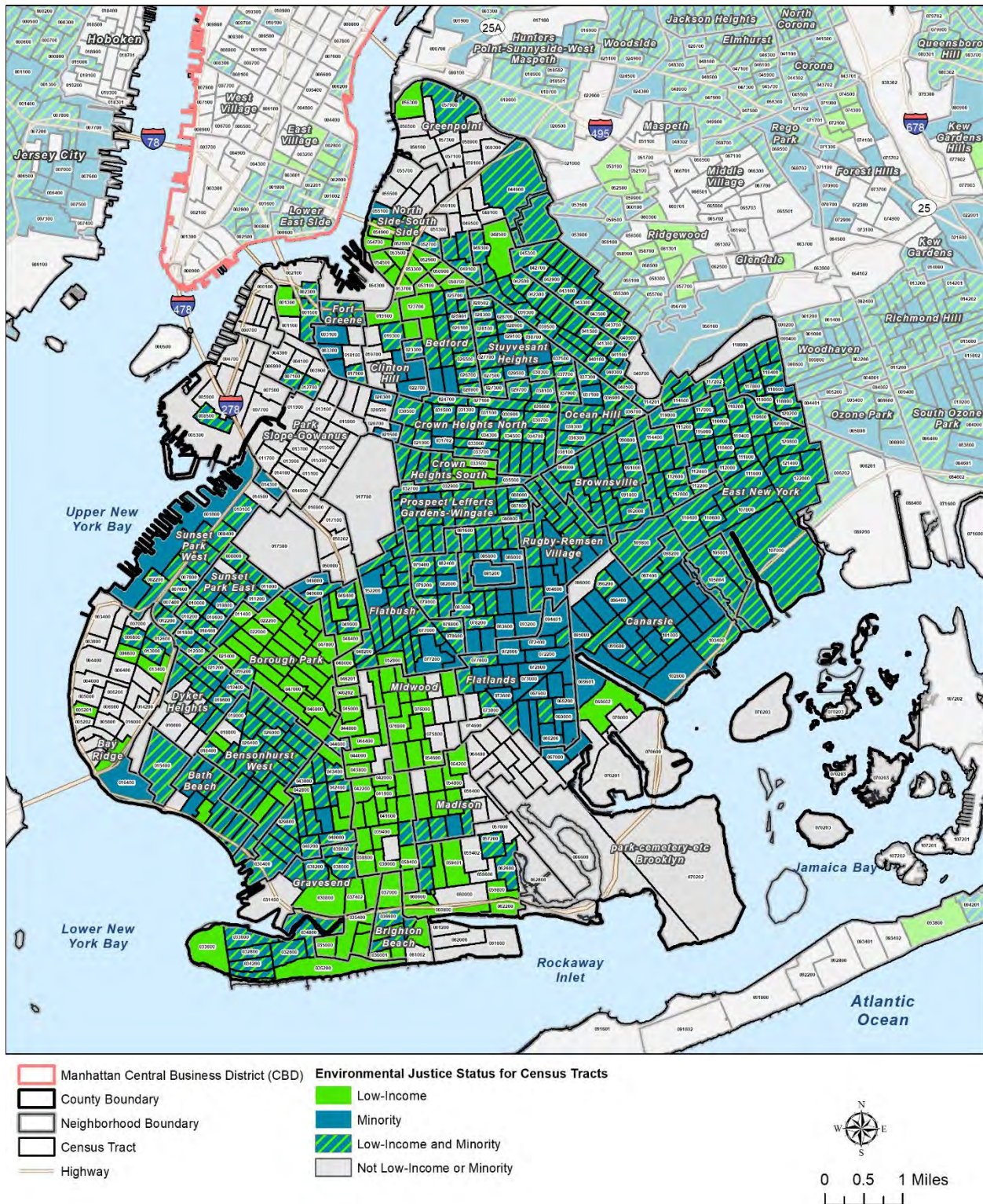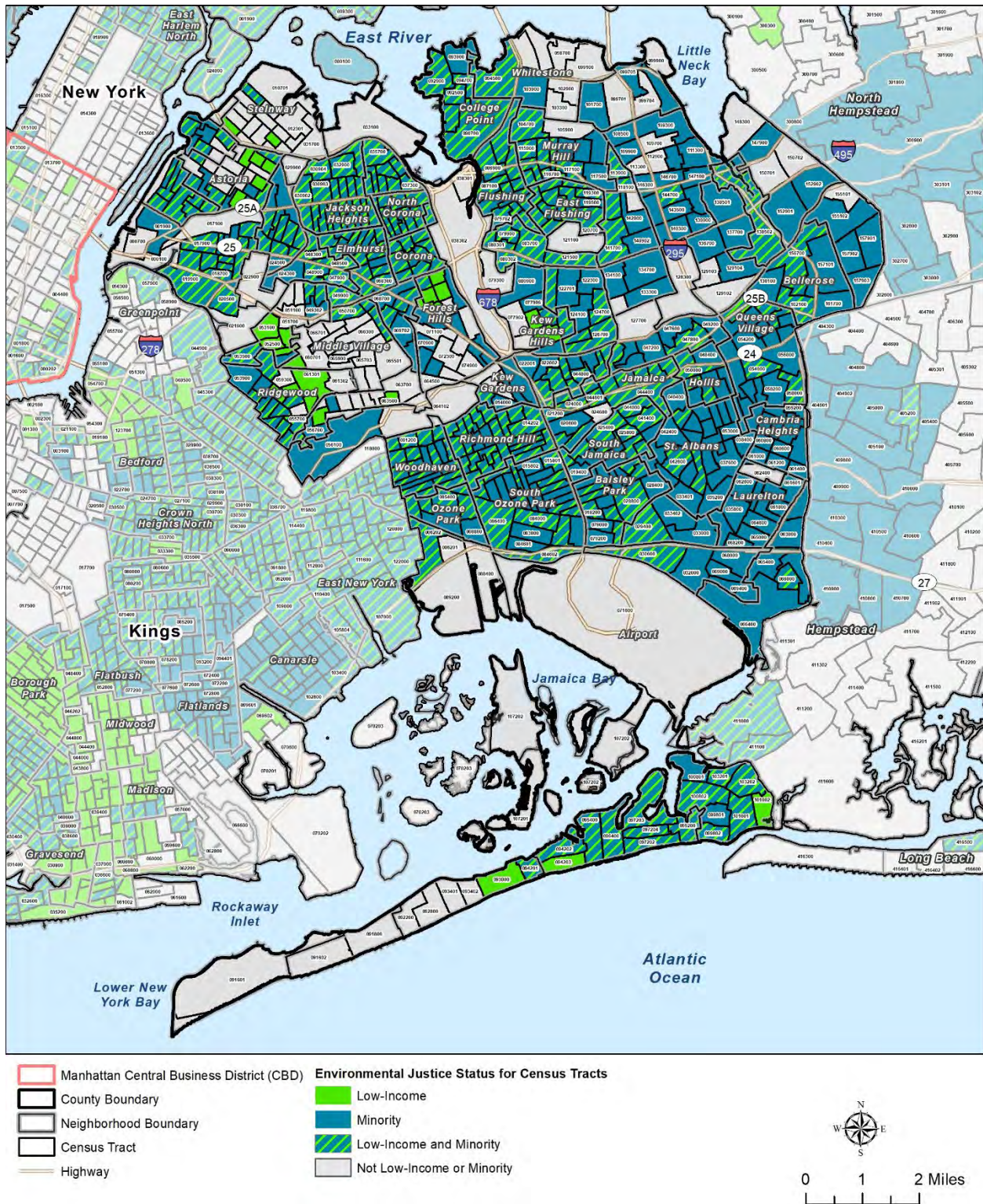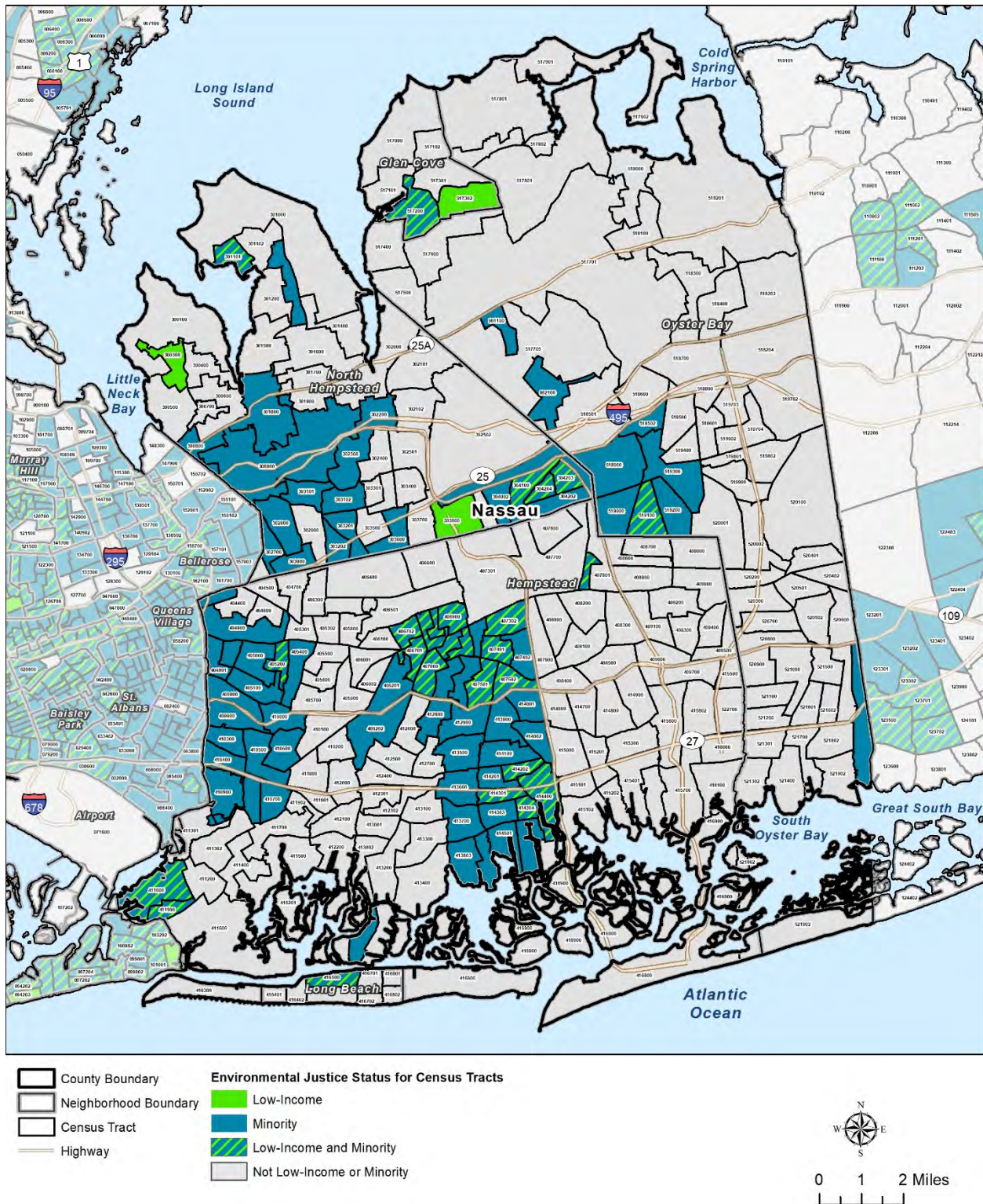
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Figure 17B-3. Outside Central Business District, New York County (Manhattan), NY
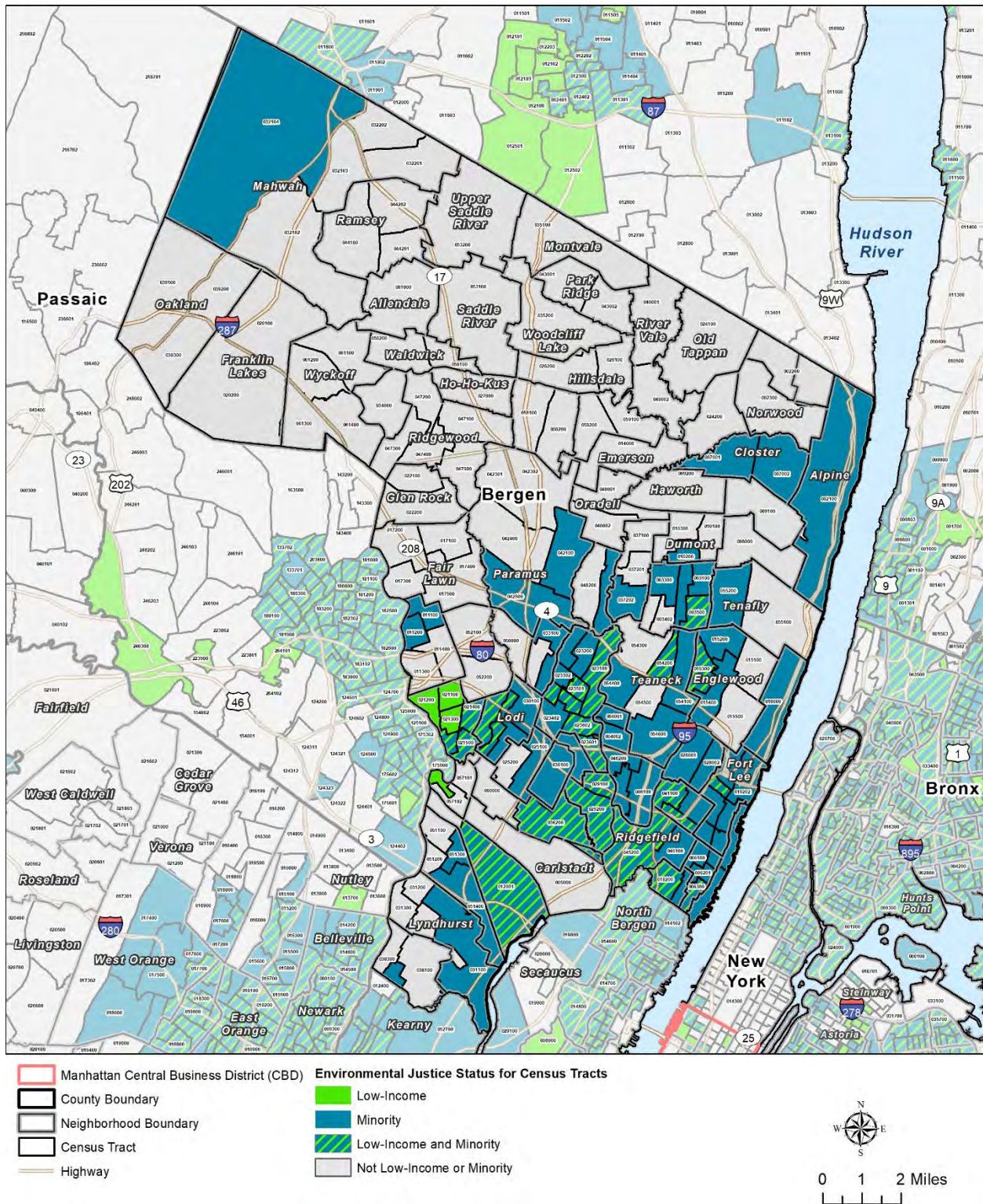

Source: U.S. Census Bureau American Community Survey 2015–2019 5-Year Estimates.
Note: Refer to Appendix 17C, Table 17C-2 for specific information pertaining to this figure.
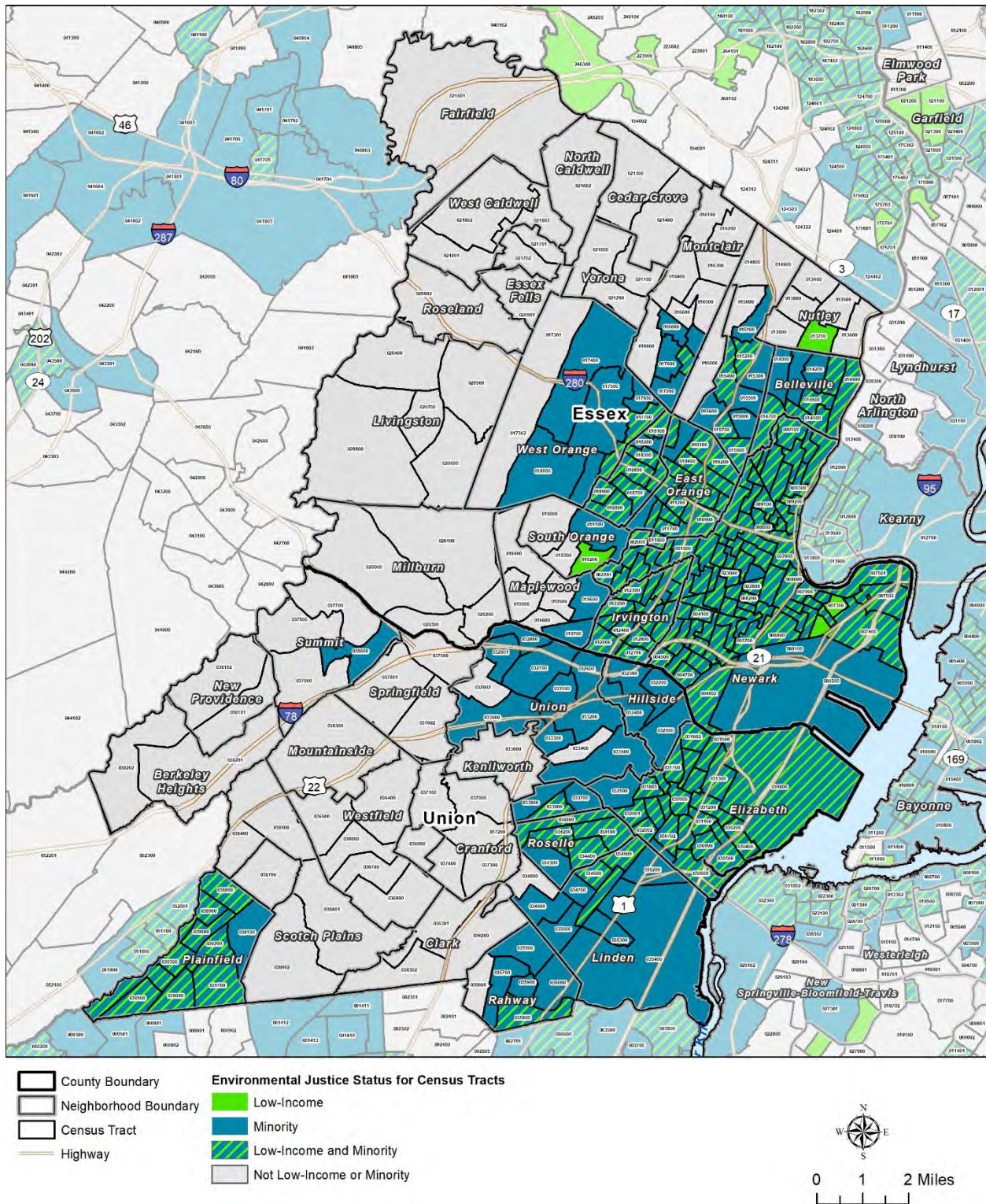
Figure 17B-4.   Bronx County, NY
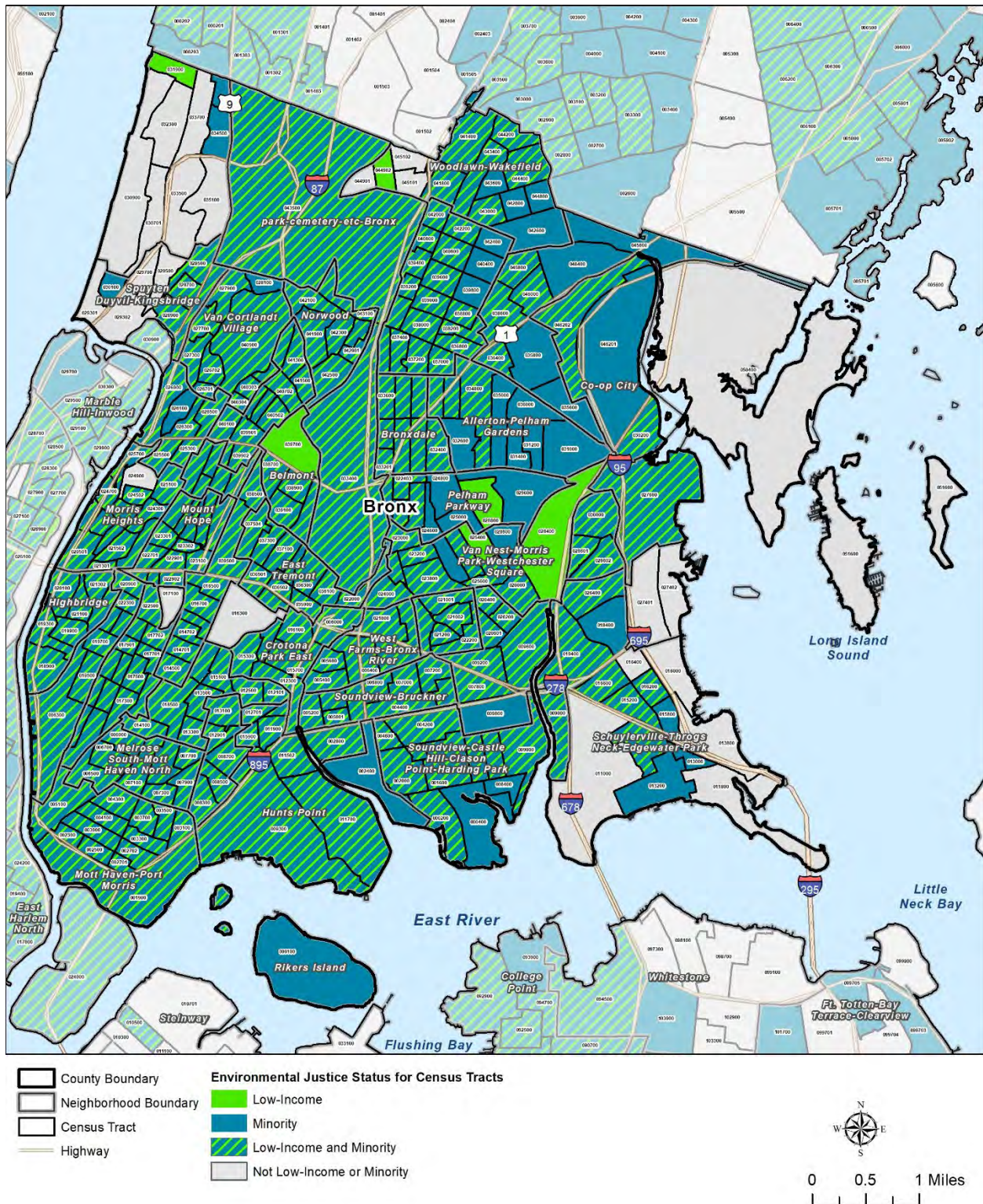
Source: U.S. Census Bureau American Community Survey 2015–2019 5-Year Estimates.
Note: Refer to Appendix 17C, Table 17C-3 for specific information pertaining to this figure.

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Figure 17B-5.   Kings County (Brooklyn), NY

Source: U.S. Census Bureau American Community Survey 2015–2019 5-Year Estimates.
Note: Refer to Appendix 17C, Table 17C-4 for specific information pertaining to this figure.

Figure 17B-6.   Queens County, NY

Source: U.S. Census Bureau American Community Survey 2015–2019 5-Year Estimates.
Note: Refer to Appendix 17C, Table 17C-5 for specific information pertaining to this figure.

Figure 17B-7.   Richmond County, NY
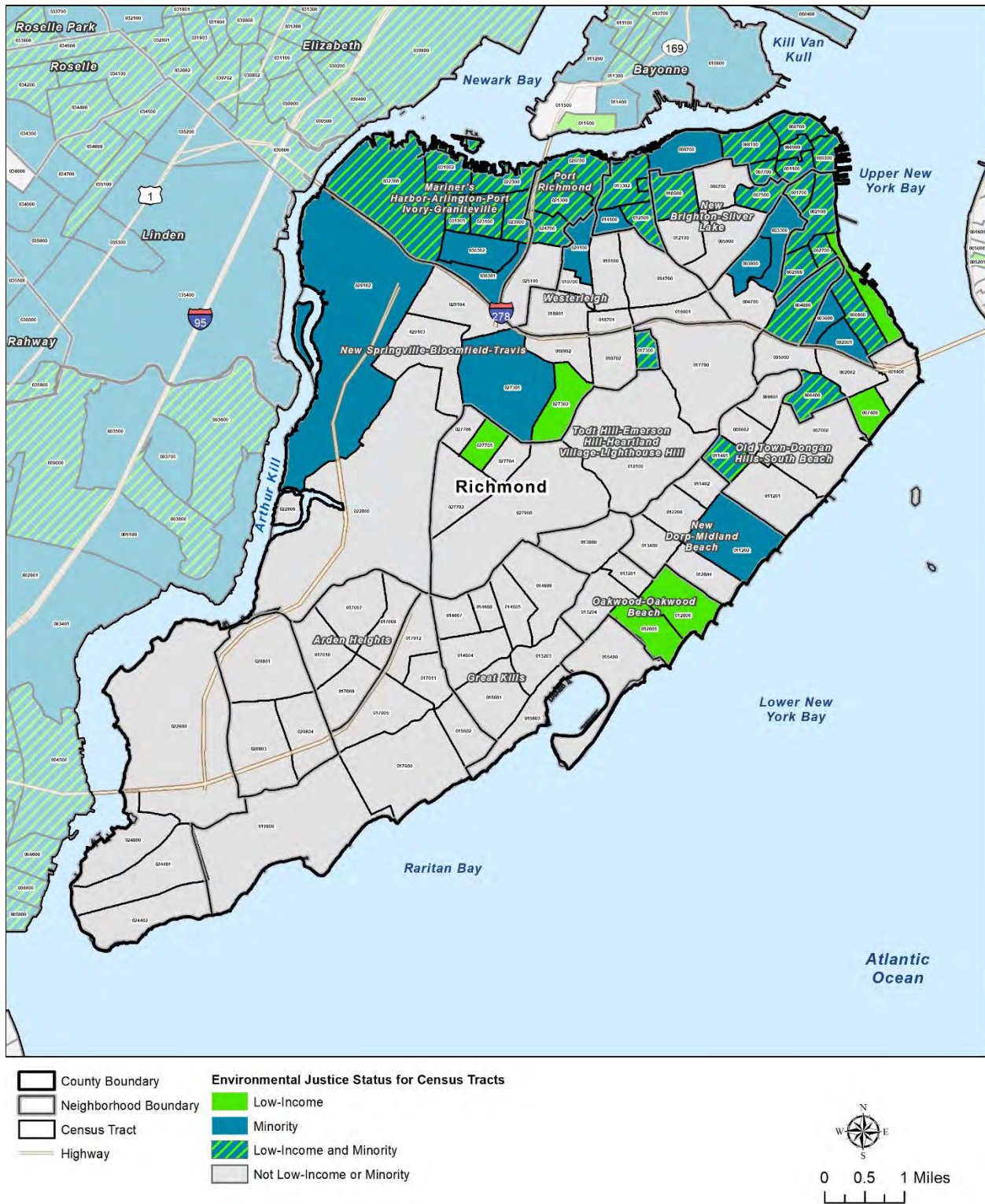
Source: U.S. Census Bureau American Community Survey 2015–2019 5-Year Estimates.
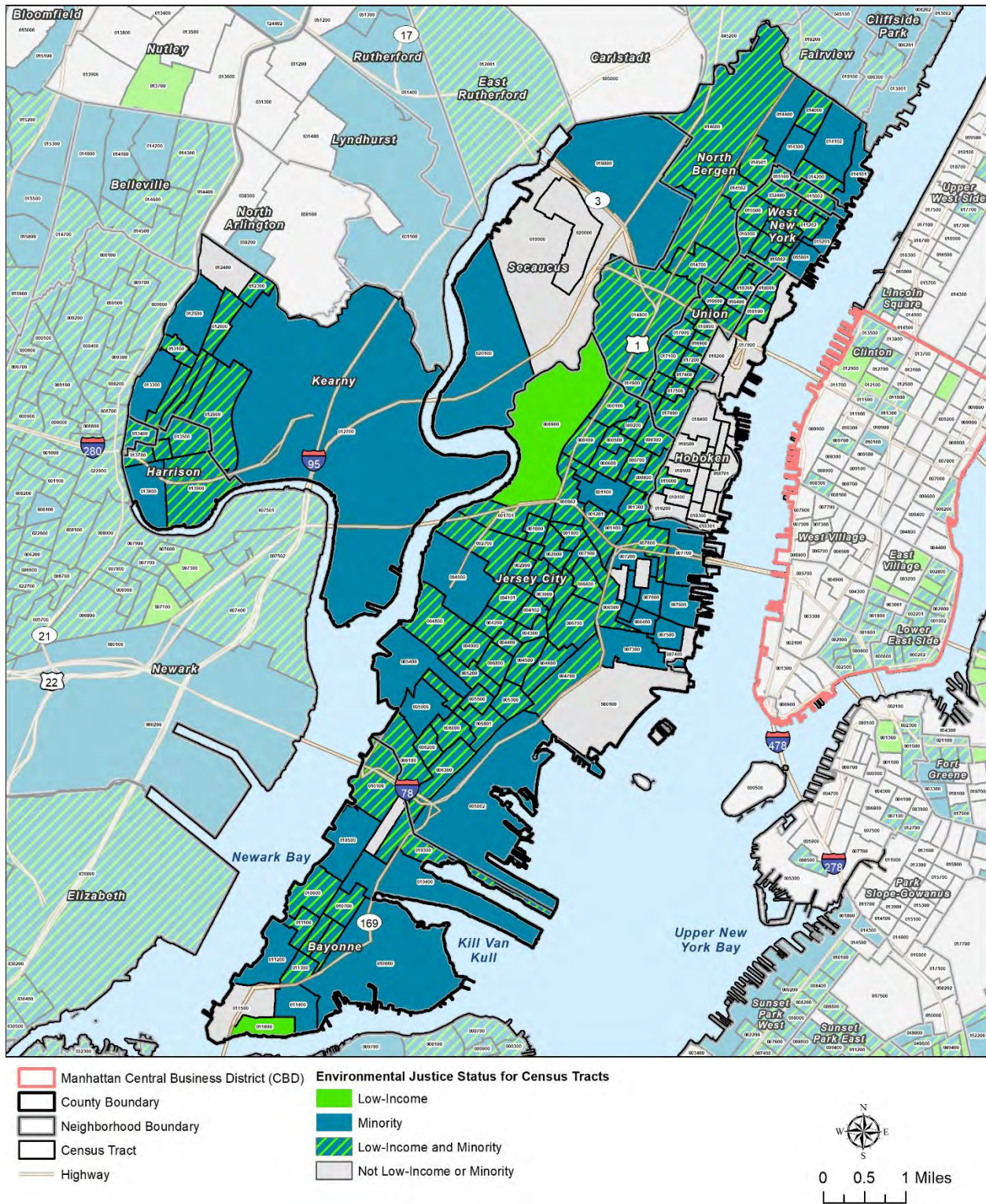Note: Refer to Appendix 17C, Table 17C-3 for specific information pertaining to this figure.

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Figure 17B-8.   Nassau County, NY

Source: U.S. Census Bureau American Community Survey 2015–2019 5-Year Estimates.
Note: Refer to Appendix 17C, Table 17C-7 for specific information pertaining to this figure.
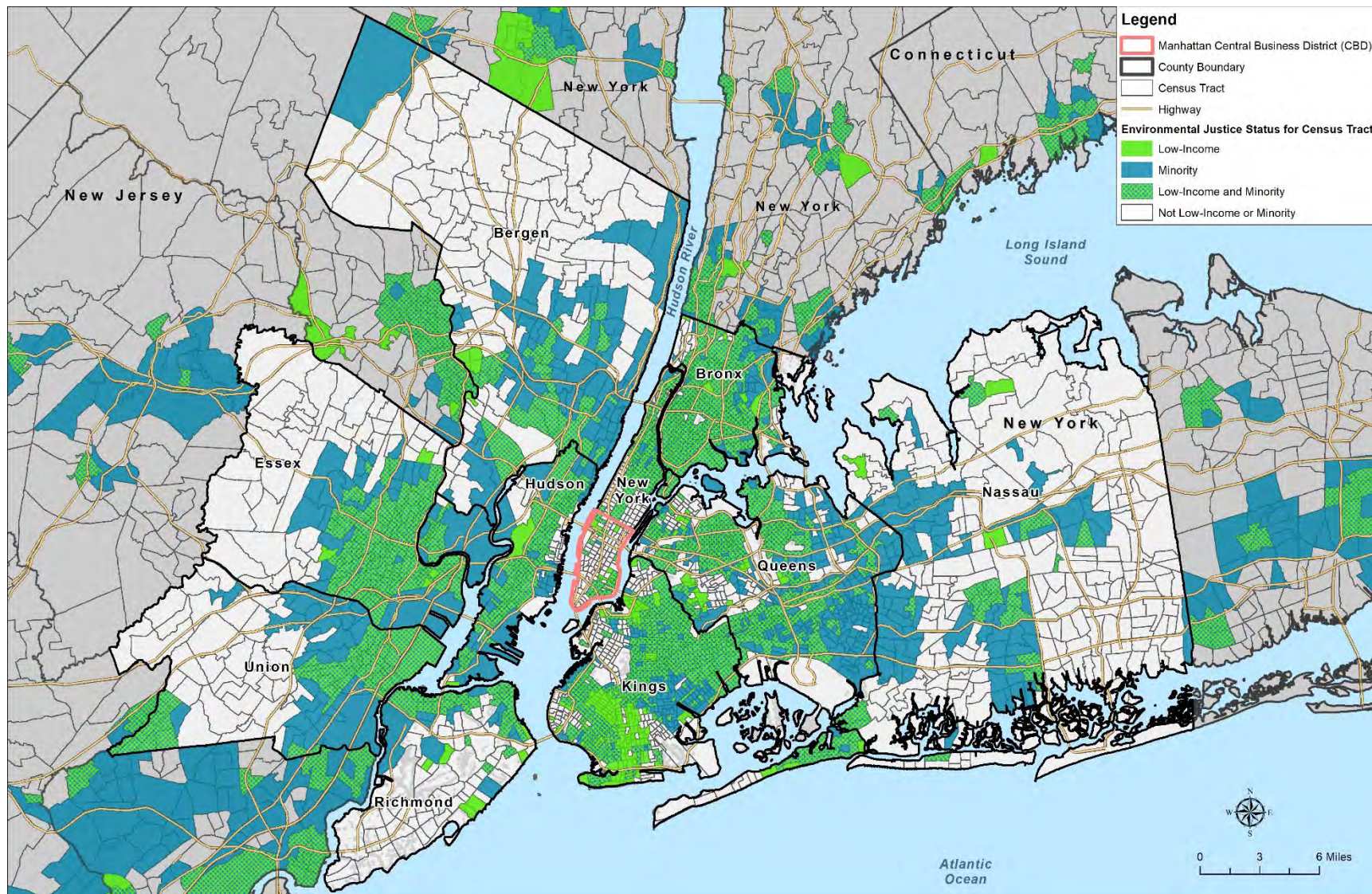
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Figure 17B-9.   Bergen County, NJ

Source: U.S. Census Bureau American Community Survey 2015–2019 5-Year Estimates.
Note: Refer to Appendix 17C, Table 17C-8 for specific information pertaining to this figure.

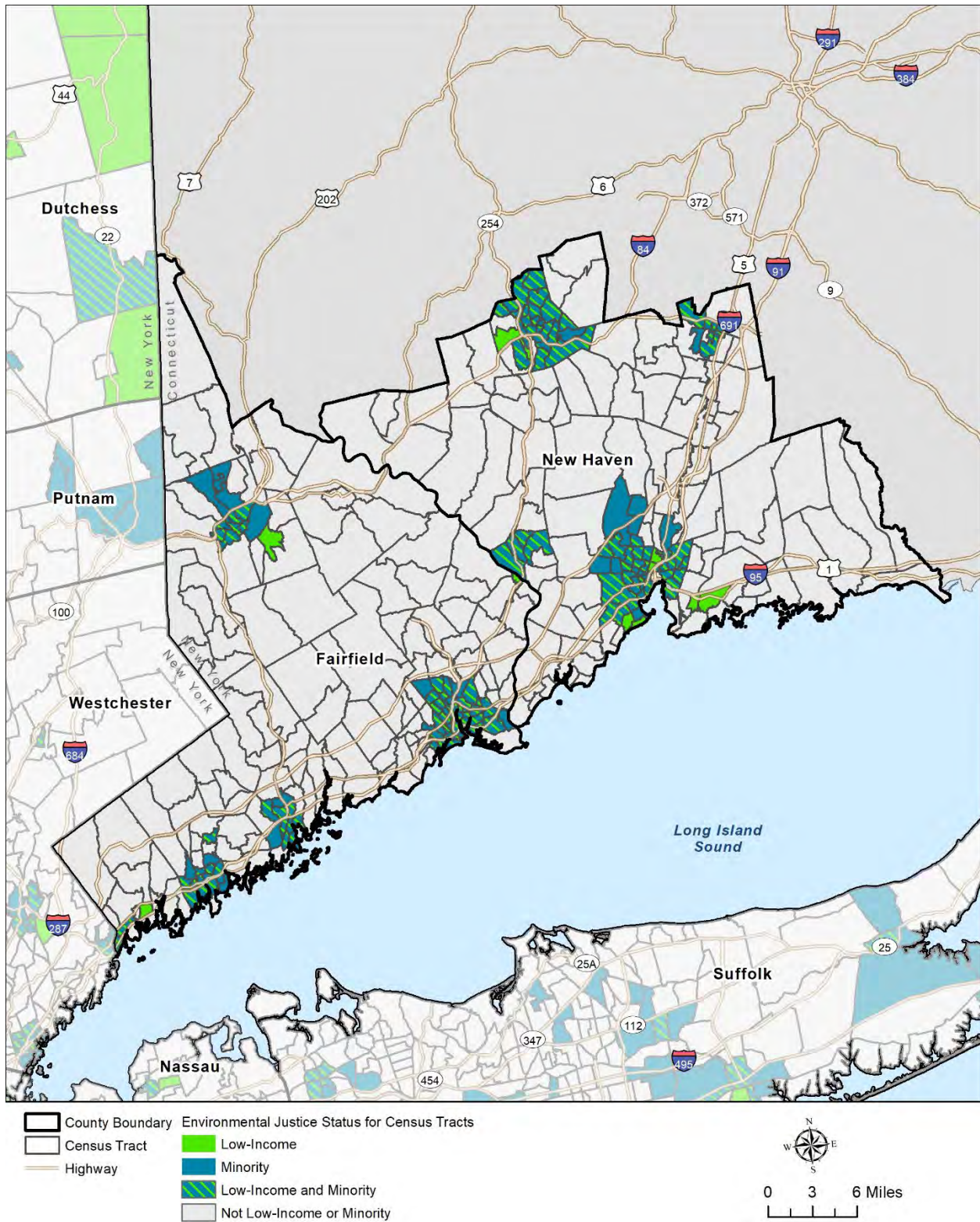DOT_0006995

Figure 17B-10.   Essex County and Union County, NJ

Source: U.S. Census Bureau American Community Survey 2015–2019 5-Year Estimates.
Note: Refer to Appendix 17C, Table 17C-9 (Essex County) and Table 17C-11 (Union County) for specific information pertaining
           to this figure.

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Figure 17B-11.   Hudson County, NJ

Source: U.S. Census Bureau American Community Survey 2015–2019 5-Year Estimates.
Note: Refer to Appendix 17C, Table 17C-10 for specific information pertaining to this figure.

REGIONAL STUDY AREA NEIGHBORHOODS
OUTSIDE LOCAL STUDY AREA

Appendix 17B-14

Figure 17B-12.   Overview of Regional Study Area

Source: U.S. Census Bureau American Community Survey 2015–2019 5-Year Estimates.
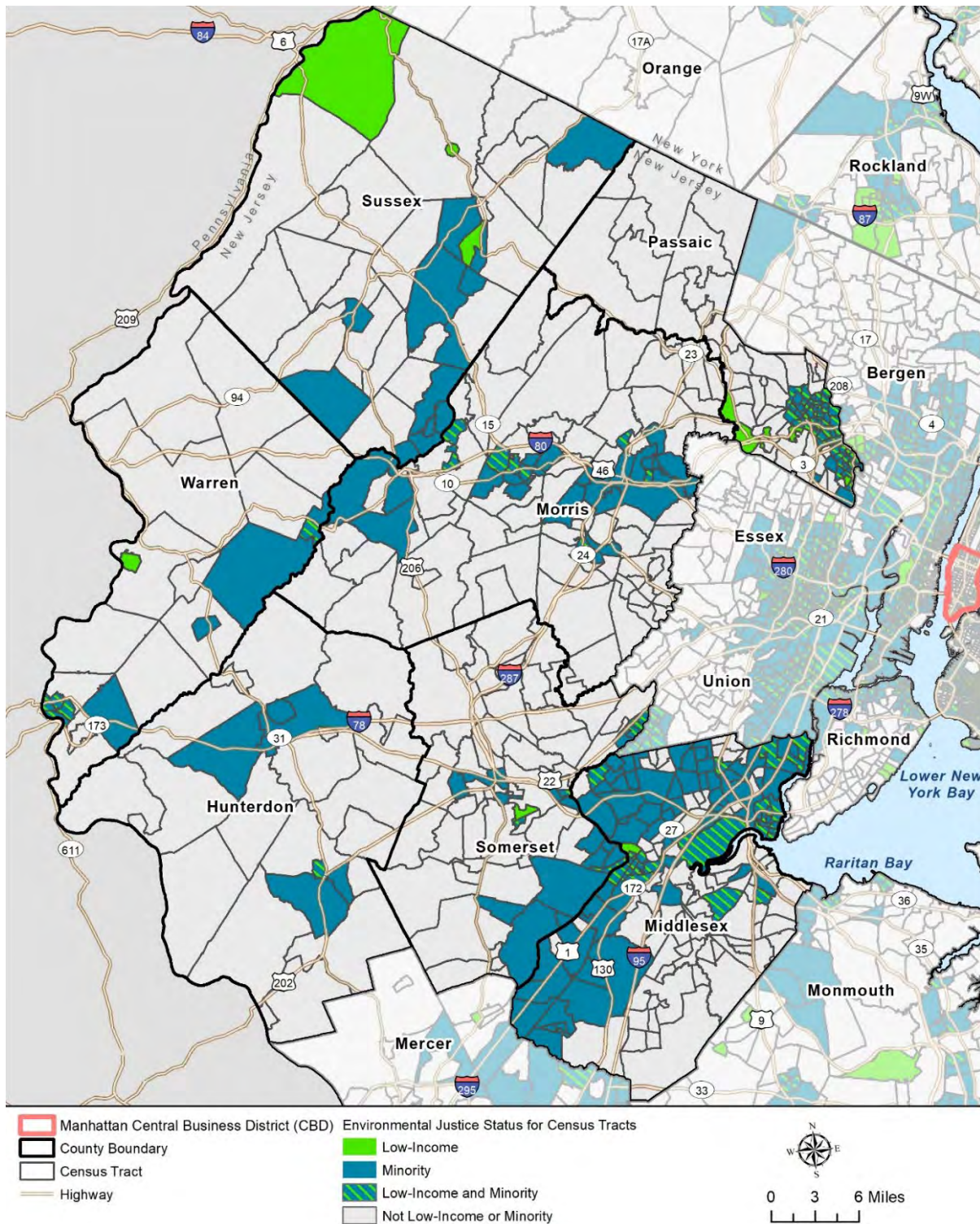
Figure 17B-13.   Connecticut Counties: Fairfield and New Haven Counties

Source: U.S. Census Bureau American Community Survey 2015–2019 5-Year Estimates.
Note: Refer to Appendix 17C, Table 17C-12 (Fairfield County) and Table 17C-13 (New Haven County) for specific information pertaining to this figure.

DOT_0007000

Figure 17B-14.   New Jersey Northern Counties: Hunterdon, Morris, Passaic, Somerset, Sussex, and Warren Counties

Source: U.S. Census Bureau American Community Survey 2015–2019 5-Year Estimates.

Note: Refer to Appendix 17C, Table 17C-14 (Hunterdon County), Table 17C-18 (Morris County), Table 17C-20 (Passaic County), Table 17C-21 (Somerset County), Table 17C-22 (Sussex County), and Table 17C-23 (Warren County) for specific information pertaining to this figure.

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Figure 17B-15.   New Jersey Southern Counties: Mercer, Middlesex, Monmouth, and Ocean Counties
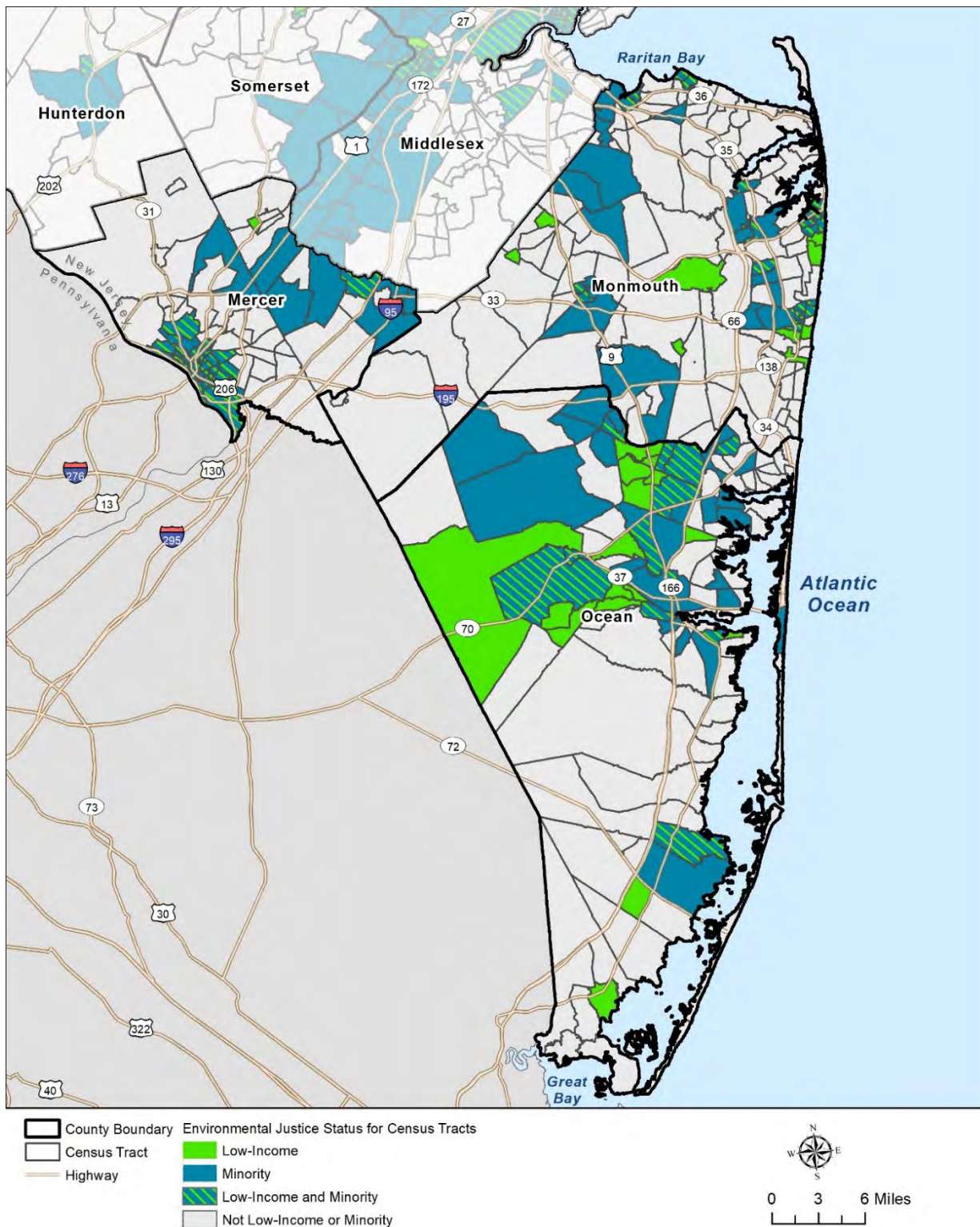
Source: U.S. Census Bureau American Community Survey 2015–2019 5-Year Estimates.
Note: Refer to Appendix 17C, Table 17C-15 (Mercer County), Table 17C-16 (Middlesex County), Table 17C-17 (Monmouth County), and Table 17C-19 (Ocean County) for specific information pertaining to this figure.

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Figure 17B-16.   New York Counties North of New York City: Dutchess, Putnam, Orange, Rockland, and Westchester Counties
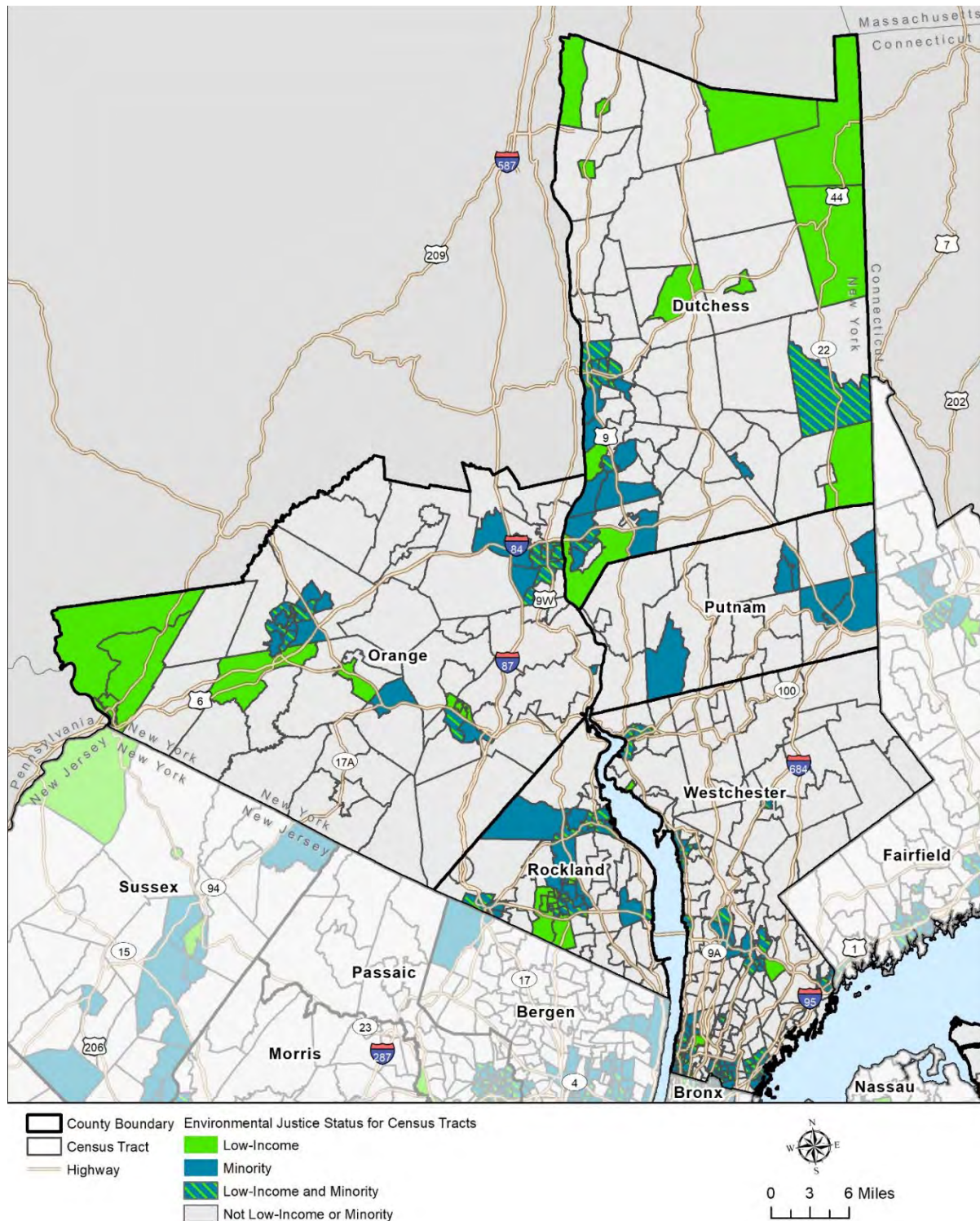
Source: U.S. Census Bureau American Community Survey 2015–2019 5-Year Estimates.

Note: Refer to Appendix 17C, Table 17C-24 (Dutchess County), Table 17C-26 (Putnam County), Table 17C-25 (Orange County), Table 17C-27 (Rockland County), and Table 17C-29 (Westchester County) for specific information pertaining to this figure.

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Figure 17B-17.   Long Island County: Suffolk County, NY
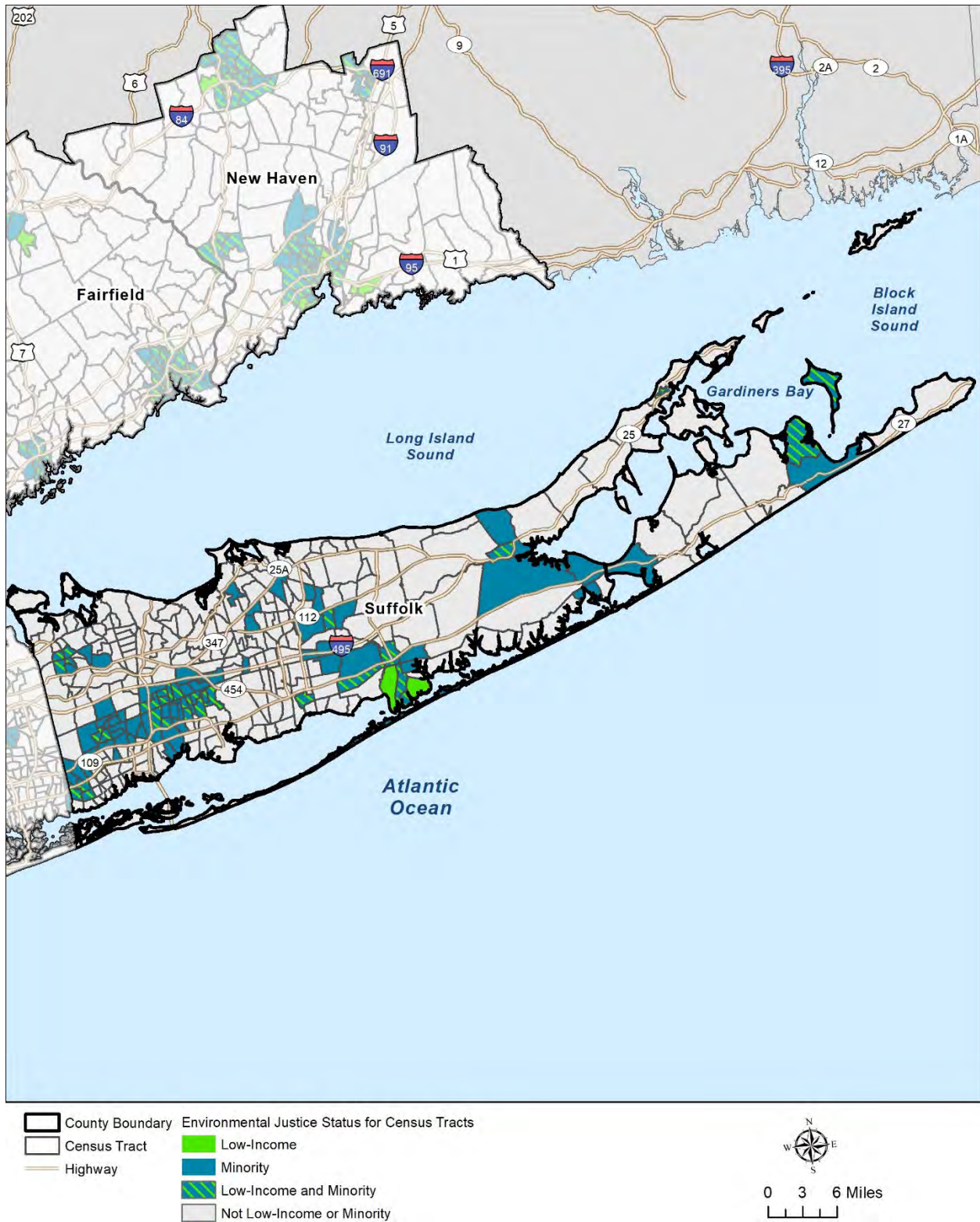
Source: U.S. Census Bureau American Community Survey 2015–2019 5-Year Estimates.
Note: Refer to Appendix 17C, Table 17C-28 (Suffolk County) for specific information pertaining to this figure.

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17C, Environmental Justice Profile of Study Areas: Tables

- Local Study Area Neighborhoods
  - Central Business District, New York County (Manhattan), NY
  - Outside Central Business District, New York County (Manhattan), NY
  - Bronx County, NY
  - Kings County (Brooklyn), NY
  - Queens County, NY
  - Richmond County, NY
  - Nassau County, NY
  - Bergen County, NJ
  - Essex County, NJ
  - Hudson County, NJ
  - Union County, NJ

- Regional Study Area Neighborhoods Outside Local Study Area
  - Fairfield County, CT
  - New Haven County, CT
  - Hunterdon County, NJ
  - Mercer County, NJ
  - Middlesex County, NJ
  - Monmouth County, NJ
  - Morris County, NJ
  - Ocean County, NJ
  - Passaic County, NJ
  - Somerset County, NJ
  - Sussex County, NJ
  - Warren County, NJ
  - Dutchess County, NY
  - Orange County, NY
  - Putnam County, NY
  - Rockland County, NY
  - Suffolk County, NY
  - Westchester County, NY

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Appendix 17C, Environmental Justice: Environmental Justice Profile of Study Areas: Tables

LOCAL STUDY AREA NEIGHBORHOODS